

CLAIMS

1. A protein comprising the same or substantially the same amino acid sequence as an amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 14 or SEQ ID NO: 104, or a salt thereof.
- 5 2. A protein consisting of an amino acid sequence represented by SEQ ID NO: 1 or SEQ ID NO: 14, or a salt thereof.
3. A protein consisting of an amino acid sequence represented by SEQ ID NO: 104, or a salt thereof.
4. A partial peptide of the protein according to claim 1, or a salt thereof.
- 10 5. A polynucleotide comprising a polynucleotide encoding the protein according to claim 1 or the partial peptide according to claim 4.
6. The polynucleotide according to claim 5, which is DNA.
7. A DNA consisting of a base sequence represented by SEQ ID NO: 2, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 14, SEQ ID NO: 105 or SEQ ID NO: 112.
- 15 8. A recombinant vector comprising the polynucleotide according to claim 5.
9. A transformant transformed with the recombinant vector according to claim 8.
10. A method of manufacturing the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4, which comprises culturing the transformant according to claim 9, forming and accumulating the protein according to claim 1 or the
20 partial peptide according to claim 4, and recovering it.
11. A medicine comprising the protein according to claim 1 or the partial peptide according to claim 4.
12. A medicine comprising the polynucleotide according to claim 5.

13. An antibody to the protein according to claim 1, the partial peptide according to claim 4, or a salt of the protein or partial peptide.
14. A medicine comprising the antibody according to claim 13.
15. A diagnostic agent comprising the antibody according to claim 13.
- 5 16. A polynucleotide comprising a base sequence complementary or substantially complementary to the base sequence of the polynucleotide according to claim 5 or a part of the base sequence.
17. A medicine comprising the polynucleotide according to claim 16.
18. A method of screening a compound or its salt that promotes or inhibits the activity of
- 10 the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4, which comprises using the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4.
19. The screening method according to claim 18, wherein the activity of the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4 is the
- 15 substrate transport activity of the protein.
- 20 A kit for screening a compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4, which comprises the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4.
- 20 21. A compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 1 or the partial peptide or its salt according to claim 4, which is obtained by using the screening method according to claim 18 or the screening kit according to claim 19.

22. A medicine comprising the compound or its salt according to claim 21.
23. A method of screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 1, which comprises using the polynucleotide according to claim 5.
- 5 24. A kit for screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 1, which comprises the polynucleotide according to claim 5.
25. A compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 1, which is obtained by the screening method according to claim 23 or
- 10 the screening kit according to claim 24.
26. A medicine comprising the compound or its salt according to claim 25.
27. The medicine according to claim 11, claim 12, claim 14, claim 17, claim 22 or claim 26, which is a prophylactic/therapeutic agent for hyperlipemia, arteriosclerosis, genital diseases or digestive diseases.
- 15 28. A prophylactic/therapeutic method for hyperlipemia, arteriosclerosis, genital diseases or digestive diseases, which comprises administering an effective amount of the compound or its salt according to claim 21 or 25 into a mammal.
29. Use of the compound or its salt according to claim 21 or 25 in producing a prophylactic/therapeutic agent for hyperlipemia, arteriosclerosis, genital diseases or
- 20 digestive diseases.
30. A protein or its salt comprising an amino acid sequence identical or substantially identical with an amino acid sequence represented by SEQ ID NO: 18.
31. A protein consisting of an amino acid sequence represented by SEQ ID NO: 18, or a

salt thereof.

32. A partial peptide of the protein according to claim 30, or a salt thereof.

33. A polynucleotide comprising a polynucleotide encoding the protein according to claim 30 or the partial peptide according to claim 32.

5 34. The polynucleotide according to claim 33, which is DNA.

35. A DNA consisting of a base sequence represented by SEQ ID NO: 19 or SEQ ID NO: 41.

36. A recombinant vector comprising the polynucleotide according to claim 33.

37. A transformant transformed with the recombinant vector according to claim 36.

10 38. A method of manufacturing the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32, which comprises culturing the transformant according to claim 37, forming and accumulating the protein according to claim 30 or the partial peptide according to claim 32, and recovering it.

39. A medicine comprising the protein according to claim 30 or the partial peptide
15 according to claim 32.

40. A medicine comprising the polynucleotide according to claim 33.

41. An antibody to the protein according to claim 30, the partial peptide according to claim 32, or a salt of the protein or partial peptide.

42. A medicine comprising the antibody according to claim 41.

20 43. A diagnostic agent comprising the antibody according to claim 41.

44. A polynucleotide comprising a base sequence complementary or substantially complementary to the base sequence of the polynucleotide according to claim 33 or a part of the base sequence.

45. A medicine comprising the polynucleotide according to claim 44.
46. A method of screening a compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32, which comprises using the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32.
47. A kit for screening a compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32, which comprises the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32.
48. A compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 30 or the partial peptide or its salt according to claim 32, which is obtained by using the screening method according to claim 46 or the screening kit according to claim 47.
49. A medicine comprising the compound or its salt according to claim 48.
50. A method of screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 30, which comprises using the polynucleotide according to claim 33.
51. A kit for screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 30, which comprises the polynucleotide according to claim 33.
52. A compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 30, which is obtained by the screening method according to claim 50 or the screening kit according to claim 51.

53. A medicine comprising the compound or its salt according to claim 52.
54. The medicine according to claim 39, claim 40, claim 42, claim 45, claim 49 or claim 53, which is a prophylactic/therapeutic agent for respiratory diseases, renal diseases or digestive diseases.
- 5 55. A prophylactic/therapeutic method for respiratory diseases, renal diseases or digestive diseases, which comprises administering an effective amount of the compound or its salt according to claim 48 or 52 into a mammal.
56. Use of the compound or its salt according to claim 48 or 52 in producing a prophylactic/therapeutic agent for respiratory diseases, renal diseases or digestive diseases.
- 10 57. A protein comprising an amino acid sequence identical or substantially identical with an amino acid sequence represented by SEQ ID NO: 42, or its salt.
58. A protein consisting of an amino acid sequence represented by SEQ ID NO: 42, or a salt thereof.
59. A partial peptide of the protein according to claim 57, or a salt thereof.
- 15 60. A polynucleotide comprising a polynucleotide encoding the protein according to claim 57 or the partial peptide according to claim 59.
61. The polynucleotide according to claim 60, which is DNA.
62. A DNA consisting of a base sequence represented by SEQ ID NO: 43, SEQ ID NO: 60, SEQ ID NO: 61 or SEQ ID NO: 62.
- 20 63. A recombinant vector comprising the polynucleotide according to claim 60.
64. A transformant transformed with the recombinant vector according to claim 63.
65. A method of manufacturing the protein or its salt according to claim 57 or the partial peptide or its salt according to claim 59, which comprises culturing the transformant

according to claim 64, forming and accumulating the protein according to claim 57 or the partial peptide according to claim 59, and recovering it.

66. A medicine comprising the protein according to claim 57 or the partial peptide according to claim 59.

5 67. A medicine comprising the polynucleotide according to claim 60.

68. An antibody to the protein according to claim 57, the partial peptide according to claim 59, or a salt of the protein or partial peptide.

69. A medicine comprising the antibody according to claim 68.

70. A diagnostic agent comprising the antibody according to claim 68.

10 71. A polynucleotide comprising a base sequence complementary or substantially complementary to the base sequence of the polynucleotide according to claim 60 or a part of the base sequence.

72. A medicine comprising the polynucleotide according to claim 71.

73. A method of screening a compound or its salt that promotes or inhibits the activity of
15 the protein or its salt according to claim 57 or the partial peptide or its salt according to claim 59, which comprises using the protein or its salt according to claim 57 or the partial peptide or its salt according to claim 59.

74. A kit for screening a compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 57 or the partial peptide or its salt according to claim
20 59, which comprises the protein or its salt according to claim 57 or the partial peptide or its salt according to claim 59.

75. A compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 57 or the partial peptide or its salt according to claim 59, which is

obtained by using the screening method according to claim 73 or the screening kit according to claim 74.

76. A medicine comprising the compound or its salt according to claim 75.

77. A method of screening a compound or its salt that promotes or inhibits the expression
5 of a gene for the protein according to claim 57, which comprises using the polynucleotide according to claim 60.

78. A kit for screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 57, which comprises the polynucleotide according to claim 60.

10 79. A compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 57, which is obtained by the screening method according to claim 77 or the screening kit according to claim 78.

80. A medicine comprising the compound or its salt according to claim 79.

81. A medicine according to claim 66, claim 67, claim 69, claim 72, claim 76 or claim 80,
15 which is a prophylactic/therapeutic agent for pancreatic diseases, central nerve diseases, digestive diseases or respiratory diseases.

82. A prophylactic/therapeutic method for pancreatic diseases, central nerve diseases, digestive diseases or respiratory diseases, which comprises administering an effective amount of the compound or its salt according to claim 75 or 79 into a mammal.

20 83. Use of the compound or its salt according to claim 75 or 79 in producing a prophylactic/therapeutic agent for pancreatic diseases, central nerve diseases, digestive diseases or respiratory diseases.

84. A protein or its salt comprising an amino acid sequence identical or substantially

identical with an amino acid sequence represented by SEQ ID NO: 66.

85. A protein consisting of an amino acid sequence represented by SEQ ID NO: 66, or a salt thereof.

86. A partial peptide of the protein according to claim 84, or a salt thereof.

5 87. A polynucleotide comprising a polynucleotide encoding the protein according to claim 84 or the partial peptide according to claim 86.

88. The polynucleotide according to claim 87, which is DNA.

89. A DNA consisting of a base sequence represented by SEQ ID NO: 67 or SEQ ID NO: 103.

10 90. A recombinant vector comprising the polynucleotide according to claim 86.

91. A transformant transformed with the recombinant vector according to claim 90.

92. A method of manufacturing the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which comprises culturing the transformant according to claim 91, forming and accumulating the protein according to claim 84 or the
15 partial peptide according to claim 86, and recovering it.

93. A medicine comprising the protein according to claim 84 or the partial peptide according to claim 86.

94. A medicine comprising the polynucleotide according to claim 87.

95. An antibody to the protein according to claim 84, the partial peptide according to claim
20 86, or a salt of the protein or partial peptide.

96. A medicine comprising the antibody according to claim 95.

97. A diagnostic agent comprising the antibody according to claim 95.

98. A polynucleotide comprising a base sequence complementary or substantially

complementary to the base sequence of the polynucleotide according to claim 87 or a part of the base sequence.

99. A medicine comprising the polynucleotide according to claim 98.

100. A method of screening a compound or its salt that promotes or inhibits the activity of
5 the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which comprises using the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86.

101. A kit for screening a compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 84 or the partial peptide or its salt according to claim
10 86, which comprises the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86.

102. A compound or its salt that promotes or inhibits the activity of the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which is obtained by using the screening method according to claim 100 or the screening kit
15 according to claim 101.

103. A medicine comprising the compound or its salt according to claim 102.

104. A method of screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 84, which comprises using the polynucleotide according to claim 87.

20 105. A kit for screening a compound or its salt that promotes or inhibits the expression of a gene for the protein according to claim 84, which comprises the polynucleotide according to claim 87.

106. A compound or its salt that promotes or inhibits the expression of a gene for the

protein according to claim 84, which is obtained by the screening method according to claim 104 or the screening kit according to claim 105.

107. A medicine comprising the compound or its salt according to claim 106.

108. A method of determining a ligand to the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which comprises using the protein or its salt.

109. A method of screening a compound or its salt that alters the binding property between a ligand and the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which comprises using the protein, the partial peptide or its salt.

110. A kit for screening a compound or its salt that alters the binding property between a ligand and the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which comprises the protein, the partial peptide or its salt.

111. A compound or its salt that alters the binding property between a ligand and the protein or its salt according to claim 84 or the partial peptide or its salt according to claim 86, which is obtained by the screening method according to claim 109 or the screening kit according to claim 110.

112. A medicine comprising the compound or its salt according to claim 111.

113. The medicine according to claim 93, claim 94, claim 96, claim 99, claim 103, claim 107 or claim 112, which is a prophylactic/therapeutic agent for inflammatory diseases, rheumatoid diseases or diabetic neurosis.

114. A prophylactic/therapeutic method for inflammatory diseases, rheumatoid diseases or diabetic neurosis, which comprises administering an effective amount of the compound or its salt according to claim 102, 106 or 111 into a mammal.

115. Use of the compound or its salt according to claim 102, 106 or 111 in producing a prophylactic/therapeutic agent for inflammatory diseases, rheumatoid diseases or diabetic neurosis.